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letter of which an extract was published in the *Monthly Notice* for March last. It is one of the most fiery-looking variables on our list—fiery in every stage from maximum to minimum, and is really a fine telescopic object in a dark sky, about the time of greatest brilliancy, when its colour forms a striking contrast with the steady white light of the sixth magnitude, a little to the north.

"1857, *May* 7."

On the Variable Star U *Geminorum.* By Norman Pogson, Esq.

(*Communicated by Dr. Lee.*)

Within the last three weeks this remarkable object has again shone forth, reached a maximum, and vanished, most probably to be seen no more till October, when its reappearance and sudden changes may be next looked for. In general, it may not be worth while to publish the separate comparisons of a variable star, but in this instance it is better to do so, that observers may judge for themselves of the dependence to be placed upon the epoch and period of a star so difficult to catch, and which has not been seen more than twelve times, on the occasions of three of the five maxima which must have past since the star was first discovered by Mr. Hind, in December 1855. U *Geminorum* is of a pale bluish white tint when near maximum; never ruddy; but at the first reappearance after discovery a curious scintillation or twinkling was remarked about the third day after maximum, which could not arise from atmospheric disturbances, as neighbouring smaller stars were not similarly affected. Including Mr. Hind's first estimates the following are all the observations hitherto obtained:—

1855, Dec.	15	9·0 mag.	1857, April	8	9·7 mag.
	18	9·3		11	9·5
1856, March	26	9·6		14	10·8
	27	10·2		15	11·4
	29	11·0		16	12·1
1857, April	7	9·7		18	13·6

With the aid of the light-curve obtained by projecting the last seven observations on cross-ruled paper, so as to get some idea of its march, we may fairly adopt, as the three most probable times of maxima, the midnights of—

1855, Dec. 16
1856, March 24
1857, April 10

These dates give the first or chief epoch 1855, Dec. 17, and period 96 days. On the following evenings U *Geminorum* was

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invisible, and therefore under the limits which, with due regard to the aperture and telescope employed, also with allowance for the state of atmosphere as shown by the appearance of the comparison stars, I have felt justified in assigning,—

1856, Jan. 2	Under 12 mag.	1856, Dec. 15	Under 12 mag.
12	13·5	24	11
27	11	27	13
April 2	13·5	29	13·5
4	13	1857, Jan. 14	13
10	12	15	13·5
12	11·7	16	13·5
16	12·5	27	13·5
20	11	29	13·5
24	13·5	31	13·5
May 10	13·5	Feb. 13	13·5
13	11·3	14	13·5
20	11·3	16	13·5
22	13·5	20	13·5
Sept. 3	10·7	23	13·5
Oct. 21	11	26	13·5
25	11	28	13·5
Nov. 5	11	Mar. 3	12
8	11	4	13
14	11	12	13·5
26	13·5	13	13
29	13·5	17	13·5
Dec. 1	13·5	20	13·5

The negative evidence afforded by the above list, combined with the observations previously considered, warrants the belief that the period thus found is pretty near the truth, and not a multiple of a shorter period, as on the supposition of any aliquot part of 96 days we find a maximum due on one or other of the recorded times of invisibility. On the other hand, no maximum calculated from the deduced elements is contradicted by this list. Mr. Hind has informed me that his observation on Jan. 10, 1856 (R.A.S. *Monthly Notices*, vol. xvi. p. 56), when U *Geminorum* was estimated of the 12th magnitude, referred most probably to one of the many adjacent small stars, and not to the variable. It is also quite possible that in the cloudy interval between 1856, Dec. 29, and 1857, Jan. 14, a maximum escaped observation. The next, due on July 15, will be lost in the daylight; but the following one, due Oct. 19, may be observed in the mornings should the fortnight of visibility prove favourable; and it is hardly necessary to suggest how highly desirable a comparison of the light-curves obtained by independent observers, with different-sized telescopes, would prove, as a safeguard against that involuntary mental pre-occupation

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which even the long experienced are well aware they cannot entirely get rid of.

Subjoined are my adopted magnitudes of convenient comparison stars, each of which is the mean of estimates taken on twenty *really* fine nights. My scale of magnitudes, which is merely Argelander's extended, has been sufficiently defined in the remarks appended to my ephemeris of the magnitudes of the minor planets, in the first number of this present volume:—

Star.	Mag.	1860.	
		R.A.	N.P.D.
		h m s	° ′
a	8·8	7 46 52	67 58
b	9·3	7 48 6	67 48
c	9·3	7 48 14	67 46
d	10·3	7 45 41	67 24
e	11·0	7 46 19	67 48
f	11·3	7 46 48	67 32
g	12·1	7 47 4	67 38
h	12·4	7 46 52	67 34
U Gem. Var.		7 46 48	67 38

Hartwell House, April 23.

Observations of the New Planet Ariadne, taken at the Radcliffe Observatory, Oxford, with the Ten-feet Equatorial and Ring Micrometer. By Norman Pogson.

(*Communicated by M. J. Johnson, Esq., Radcliffe Observer.*)

1857.	G.M.T.	Mag.	App. R.A.	Log. $p \times \Delta$	App. N.P.D.	Log. $q \times \Delta$	Comps.	Star.
	h m s		h m s		° ′ ″			
April 15	13 34 14	9·4	13 30 19·96	+9·172	105 43 2·5	−0·891	5	*g*
	13 57 12	...	30 18·98	+9·259	42 56·7	−0·887	5	*g*
	15 24 31	...	30 15·26	+9·460	42 36·3	−0·867	3	*g*
16	12 5 4	9·2	29 24·24	+8·247	36 41·7	−0·897	6	*f*
	12 46 59	...	29 22·45	+8·927	36 32·8	−0·895	5	*f*
17	11 23 36	...	28 26·49	−8·620	30 11·2	−0·897	6	*g*
	11 35 33	...	28 25·98	−8·352	30 8·0	−0·897	6	*g*
18	12 2 17	9·3	27 25·04	+8·461	23 1·4	−0·897	5	*f*
	12 10 58	...	27 24·82	+8·636	23 0·0	−0·896	4	*f*
28	11 48 40	9·4	17 55·99	+8·924	104 10 0·3	−0·891	6	*e*
	12 12 47	...	17 55·13	+9·082	9 50·7	−0·889	6	*e*
May 2	11 45 48	10·1	14 35·40	+9·041	103 40 25·7	−0·888	6	*d*
4	12 32 47	...	13 1·70	+9·280	25 38·8	−0·880	6	*d*
5	12 50 51	...	12 17·52	+9·344	18 37·3	−0·876	8	*b*
6	11 53 59	...	(11 38·05)	+9·171	11 59·6	−0·883	9	*a*
	11 56 24	...	13 11 37·02	+9·184	103 11 57·9	−0·883	7	*c*